

**SMALLER AND LOWER POWER STATIC MUX CIRCUITRY IN  
GENERATING MULTIPLIER PARTIAL PRODUCT SIGNALS**

**ABSTRACT**

5           A multiplier circuit to receive a multiplier and a multiplicand comprises  
at least one Booth encoder circuit to encode a plurality of multiplier bits into four  
encoded outputs. The encoded outputs select Booth-multiply functions. The circuit  
also includes a plurality of multiplexer circuits, one multiplexer circuit for each bit  
of the multiplicand. The at least one of the plurality multiplexer circuits includes  
10 four pass gates coupled to receive a multiplicand bit, a complement of the  
multiplicand bit, multiplexed data from a next lower order multiplexer circuit and  
the encoded outputs of the Booth encoder circuit outputs to provide one bit of a  
partial product at a multiplexer output.

"Express Mail" mailing label number: EV298565591US

Date of Deposit: December 5, 2003

This paper or fee is being deposited on the date indicated above with  
the United States Postal Service pursuant to 37 CFR 1.10, and is  
addressed to the Commissioner for Patents, Mail Stop Patent  
Application, P.O. Box 1450, Alexandria, VA 22313-1450.